

METHOD FOR INDUCING A SYSTEMIC IMMUNE RESPONSE TO AN ANTIGEN

ABSTRACT

A method is provided for inducing a systemic immune response to an antigen. The method comprises providing a liposomal preparation comprising lyophilized liposomes containing at least one antigen. The liposomes have at least two sizes, before lyophilization, selected from small liposomes having a size, before lyophilization, of from about 20 nm to about 1 micron, medium liposomes having a size, before lyophilization, of from about 1 micron to about 3 microns, and large liposomes having a size, before lyophilization, of from about 3 microns to about 20 microns. An effective amount of the liposomal preparation is administered to a mammal, whereby sufficient antigen containing liposomes are absorbed in the Peyer's patches of the gut of the mammal and are taken up by macrophages in the Peyer's patches to stimulate a systemic immune response.

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